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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,409	02/22/2001	Jiro Iriyama	Q63249	5069

7590 05/02/2003

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EXAMINER
MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
1745	8

DATE MAILED: 05/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Offic Action Summary	Application No.	Applicant(s)	
	09/763,409	IRIYAMA ET AL.	
	Examiner	Art Unit	
	Julian A. Mercado	1745	

-- Th MAILING DATE f this communication appears n the cover sheet with the c rrespondence address --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-28* is/are pending in the application.

4a) Of the above claim(s) *26 and 27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *10-25 and 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

Claims 12 and 13 are objected to because of the following informalities:

a. In claims 12 and 13, it is suggested to change "3 m_2/g" in line 3 to --3 m^2/g--.

Appropriate correction is required.

Priority

Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a translation of the foreign applications should be submitted under 37 CFR 1.55 in reply to this action.

Election/Restrictions

Applicant's election of Group I, claims 10-25 and 28 in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 26 and 27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-19are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 16 and 17 both recite the limitation "weight average particle diameter" in line 2 of the claim. The implication of a "weight average" to the claimed "particle diameter" is not immediately understood, as the respective limitations are drawn to a mass unit and a length unit, respectively.

Claims 18 and 19 are rejected under 35 U.S.C. 112, second paragraph as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 10, 11, 21-25 and 28 are rejected under 35 U.S.C. 102(e) as being unpatentable by Yoon et al. (U.S. 6,482,547 B1).

Yoon teaches a lithium secondary battery wherein the negative electrode active material consists essentially of a carbon material. (col. 3 line 58 et seq.) The carbon material comprises a

primary material such as graphite particles in disk-shaped or flake form and a secondary graphite particle in spherical form, exclusively. (col. 5 line 5-7, col. 8 line 64 et seq.) The secondary graphite particle, being in spherical, i.e. non-flake graphite particle form is coated with an amorphous carbon layer. (col. 8 line 59-64) The ratio of the first material to the second is disclosed at a ratio of 1:1 to 1:8, i.e. 11% to 50%. (col. 5 line 26-28)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon et al. as applied to claims 10, 11, 20-25 and 28 above, in view of Takami et al. (U.S. Pat. 5,340,670).

The teachings of Yoon are discussed above.

Yoon does not explicitly teach a surface area of 0.3 m^2/g to 3 m^2/g for the non-flake graphite material or a diameter within a range of 10 μm to 80 μm. However, Takami teaches a surface area for graphitic carbon at 0.1 to 100 m^2/g having a diameter, i.e. particle size or particle diameter of 1 to 100 μm. (col. 10 line 15-50) Additionally, in at least one example (Example 6), the surface area is specifically disclosed at 3 m^2/g. Thus, the skilled artisan would find obvious without undue experimentation to employ a surface area of 0.3 m^2/g to 3 m^2/g and a diameter within a range of 10 μm to 80 μm, as absent of unexpected results it is asserted that these are optimizable parameters for a result-effective variable. *In re Boesch,* 617 F.2d 272, 205 USPQ

215 (CCPA 1980) As taught by Takami, the surface area of the graphitic material is result-effective as it directly affects suppression of solvent decomposition and ease in manufacturing in providing for a high bulk density carbonaceous material. (claims 12, 13, 16, 17)

As claims 14 and 15 recite a product-by-process limitation of obtaining the non-flake graphite material by "graphitizing mesocarbon microbeads", this process limitation is not given patentable weight as the limitation does not give breadth or scope to the product claim. Similarly, claims 18 and 19 are also considered to recite a product-by-process limitation insofar as the flake graphite particles being artificial graphite having been "obtained from petroleum pitch or coal pitch as a raw material". Notwithstanding, the claimed product appears to be the same or similar to the prior art product, in fact, Yoon even teaches that the flake graphite particles can be as artificial graphite. (col. 5 line 8) In the event that any differences can be shown by the product of the product-by-process claims 14 and 15, such differences would have been obvious to the skilled artisan as a routine modification of the product, absent of a showing of unexpected results. *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985). (claims 14, 15, 18, 19)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows: JP 11-31508 (hereinafter JP '508) as relied upon in the January 2, 2003 restriction and as cited in the related International Search Report as an "P, X" reference is withdrawn from any forthcoming prior art ground of rejection in favor of the ground of rejection(s) outlined above and in view of the JP '508 reference, upon further consideration, being drawn to an equiaxed or granular first carbon particle. JP '508 is noted, however, to teach

coating a second non-flake, i.e. powdered graphite particle with an amorphous carbon layer in combined mixture with the first carbon particle. (Abstract) U.S. Patent 5,723,232 to Yamada et al. and U.S. Patent 5,965,296 to Nishimura et al. are cited to teach coating a graphite particle with an amorphous carbon layer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian A. Mercado whose telephone number is (703) 305-0511. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jam
April 15, 2003

Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700